

BOOK NOTICE

PETER GREGORY. 2006. **Plant Roots: Growth Activity and Interaction With Soils.** (ISBN 1-4051-1906-3; 978-1-4051-1906-1, hbk.). Blackwell Publishing Professional, 2121 State Street, Ames, IA 50014-8300, U.S.A. (**Orders:** www.blackwellplantsci.com, 800-862-6657, 515-292-3348 fax). \$199.99 hbk., 328 pp., illustrations, 7" × 10".

As suggested by the cover notes, "this book will be a vital tool for plant, crop, soil, and agricultural scientists, plant physiologists, environmental scientists, ecologists, and hydrologists." It's expensive, but perhaps "essential" as well as "vital." There are nine chapters, densely packed with technical information but easily readable, as follow.

1. Plants, Roots and the Soil (evolution, roots and shoots, roots and soil).
2. Roots and the Architecture of Root Systems (structure, extension and branching, root tip, system architecture).
3. Development and Growth of Root Systems (measurement of root systems, system development, size, and distribution, longevity and turnover, modelling).
4. The Functioning Root System (anchorage, water and nutrient uptake).
5. Roots and the Physico-chemical Environment (temperature, tropistic responses, soil pores and mechanical properties, atmospheric CO₂).
6. Roots and the Biological Environment (soil organisms, symbioses, pathogens and parasites, root herbivory).
7. The Rhizosphere (rhizodeposition, chemical changes affecting nutrient acquisition, physical changes in the rhizosphere).
8. Genetic Control of Root System Properties (genotypic differences, genetics, breeding).
9. Root Systems as Management Tools (optimal root systems, intercropping and agroforestry, crop rotations, phytoremediation).

—Guy Nesom, *Botanical Research Institute of Texas, 509 Pecan Street, Fort Worth, TX 76102-4068, U.S.A*